

NEVADA DIVISION OF ENVIRONMENTAL PROTECTION

FACT SHEET

(pursuant to NAC 445A.236)

Applicant: Estate of Robert E. Cowan
c/o Mackedon, McMormick and King
179 South Laverne Street
Fallon, Nevada 89407

Permit: NV0023272

Facility Location: former Lightning Lube Facility
1 South Maine Street
Fallon, Nevada 89407
Latitude: 39° 28' 50" N, Longitude: 118° 46' 57" W
Township 19N, Range 29E, Section 31 MDB&M

Discharge Outfall: Wildes Irrigation Ditch via the City of Fallon Storm Drain System
Fallon, Churchill County, Nevada
Latitude: 39° 29.09' N, Longitude: 118° 46.61' W
Township 19N, Range 29E, Section 30 MDB&M

General: The Cowan Estate property, former Lightning Lube Facility, located at 1 South Maine Street, Fallon, Nevada was operated as a fueling station until 1998. The groundwater beneath the facility is contaminated with petroleum hydrocarbons, with xylene listed as the major constituent of gasoline present in the water extracted from the site.

The on-site groundwater recovery and remediation system includes groundwater extraction wells, an oil/water separator, an air stripper, and two granular activated carbon canisters. The remediation system was previously operated with unpermitted discharge to a leachfield. The outfall will be relocated with treated discharge flow piped into the City of Fallon storm drain system near the intersection of Williams Avenue (US50) and South Maine Street.

Petroleum hydrocarbon contaminants of concern in the affected groundwater include benzene, ethylbenzene, toluene, and total xylenes (BTEX), methyl tertiary butyl ether (MTBE) and total petroleum hydrocarbons (TPH). The Division's Bureau of Corrective Actions regulates the on-site cleanup activities and final site closure requirements.

Flow: The permitted discharge flow rate of this groundwater remediation system is specified as 8.0 gallons per minute (gpm), which is equivalent to 0.0115 million gallons per day (MGD). This flow rate is based on an estimate prepared by the Applicant's environmental consultant.

Site Groundwater: The average depth to groundwater at the facility is approximately 10 feet below ground surface (bgs). The groundwater monitoring and extraction system includes nine monitoring wells and four air sparging wells. The local groundwater flow is south-southeast towards the New River Drain.

Based on a single sample, the shallow groundwater at the facility is of very poor quality with elevated concentrations of aluminum, 98 mg/L; arsenic, 0.16 mg/L; beryllium, 0.004 mg/L; iron, 110 mg/L; lead, 0.11 mg/L; manganese, 8.3 mg/L; mercury, 0.0079 mg/L; and total dissolved solids, 1200 mg/L.

The application identified one drinking water well within ¼-mile of the site. The 392-foot deep, 16-inch diameter City of Fallon water supply well is screened from 350 feet to 390 feet bgs and is located approximately 950 feet north-northeast of the site.

Receiving Water Characteristics: The receiving water for the treated groundwater is Wildes Irrigation Ditch via the City of Fallon storm drain system. The water in Wildes Irrigation Ditch is diverted from Lahontan Reservoir for agricultural irrigation purposes. The water quality in the irrigation ditches is not monitored, but the Carson River discharge from Lahontan Reservoir, as monitored by the Division, meets drinking water standards with an average total dissolved solids concentration of approximately 200 mg/L, total nitrogen as nitrogen less than 1.0 mg/L, and total phosphorus less than 0.2 mg/L. The water quality in Wildes Irrigation Ditch could be significantly reduced depending on the volume of agricultural input to the ditch system.

Agricultural return flows in this area drain to the New River Drain, that is tributary to the Harmon Reservoir, a Class C water.

Proposed Effluent Limitations:

Table 1: Discharge Limitations: Outfall 001

PARAMETER	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
	30-Day Average	Daily Maximum	Measurement Frequency	Sample Type
Discharge Flow (gpm)	8.0	---	Continuous ¹	Flow Meter
VOC EPA Method 624 (report all parameters), (µg/L)	Monitor & Report		Annually ³	Discrete
Benzene (µg/L)	5	---	Weekly/Monthly ²	Discrete
Ethylbenzene (µg/L)	100	---	Weekly/Monthly ²	Discrete
Toluene (µg/L)	100	---	Weekly/Monthly ²	Discrete
Xylenes, Total (µg/L)	200	---	Weekly/Monthly ²	Discrete
MTBE ³ (µg/L)	20	---	Weekly/Monthly ²	Discrete
TPH EPA SW-846 Method 8015 (modified to detect "purgeable fuel hydrocarbons") (mg/L)	1.0	---	Weekly/Monthly ²	Discrete
pH (SU)	6.5 ≤ pH ≤ 8.5		Weekly/Monthly ²	Discrete
Total Dissolved Solids (mg/L)	Monitor & Report		Quarterly	Discrete
Hardness (as mg/L CaCO)	Monitor & Report		Quarterly	Discrete
Arsenic ⁴ (mg/L)	0.10	---	Quarterly	Discrete
Iron ⁴ (mg/L)	5.0	---	Quarterly	Discrete
Lead ⁵ (µg/L)	0.50 e ^{1.273 ln (H) - 1.460}		Quarterly	Discrete
Manganese ⁴ (mg/L)	0.20	---	Quarterly	Discrete
Mercury ⁴ (mg/L)	0.002	---	Quarterly	Discrete
Aluminum (mg/L)	Monitor & Report		Quarterly	Discrete

NOTES:

1. Monitor and record daily discharge flow in gallons per day and report on a weekly basis for the first two months of operation, followed

thereafter by monthly monitoring and recording.

2. The Permittee shall sample the discharge weekly for the first two months of operation, followed thereafter by monthly sampling. If the treated effluent exceeds any permit limit, the Permittee shall make appropriate treatment system adjustments and resample the discharge within 72 hours after lab notification of exceedance. The first sample shall be taken within three days of commencing system operation.
3. To be sampled in the fourth quarter and submitted to the Division with the Annual Report.
4. Total recoverable.
5. Dissolved fraction.
 - gpm: Gallons per minute.
 - µg/L: Micrograms per liter.
 - mg/L: Milligrams per liter.
 - VOC: Volatile organic compounds.
 - MTBE: Methyl tertiary butyl ether.
 - TPH: Total petroleum hydrocarbons.
 - EPA: U.S. Environmental Protection Agency.
 - SW 846: Solid Waste 846 Analytical Methods.
 - SU: Standard units.
 - CaCO₃: Calcium carbonate.
 - H: Hardness.

Rationale for Permit Requirements: The Division has established the monitoring requirements in Table 1 below to ensure that the receiving water, Wildes Irrigation Ditch and, potentially, Harmon Reservoir are not degraded as a result of the pump and treat process discharge at the former Lightning Lube Facility. Specific contaminants of concern (petroleum hydrocarbons) from this site include BTEX, MTBE and TPH.

Flow: The rationale for the 30-day average discharge was explained in the Flow section of this fact sheet.

In October 1998, the Division adopted an interim action level for MTBE of 20 µg/L for sites in close proximity to receptors and/or sensitive receptors. The Wildes Irrigation Ditch qualifies as such, and therefore, a 20 µg/L MTBE limit has been established for this permit.

Arsenic – Per NAC 445A.144, the irrigation standard for total recoverable arsenic is 0.10 mg/L.

Iron – Per NAC 445A.144, the irrigation standard for total recoverable iron is 5.0 mg/L.

Lead – Per NAC 445A.144, the acute aquatic life standard for dissolved lead is $0.5 e^{1.273 \ln(H) - 1.460}$ µg/L and the chronic aquatic life standard is $0.25 e^{1.273 \ln(H) - 4.705}$ µg/L.

Manganese – Per NAC 445A.144, the irrigation standard for total recoverable manganese is 0.20 mg/L.

Mercury – Per NAC 445A.144, the acute aquatic life standard for dissolved mercury is 2.0 µg/L and the chronic aquatic life standard is 0.012 µg/L.

Tungsten – Consideration was given to requiring quarterly monitoring of tungsten. Without water quality standards to establish detection limits, it was determined to be pointless to require this Permittee to monitor water used for aquatic life and irrigation for this metal.

Schedule of Compliance: The Permittee shall submit the following items to the Division for review and approval:

- Within ninety (90) days of the permit issuance date, the Permittee shall submit to the Division, for review and approval, an Operations & Maintenance (O&M) Manual for the groundwater extraction and treatment system.

Proposed Determination: The Division has made the tentative determination to issue the proposed permit for a period of five (5) years.

Procedures for Public Comment: The Notice of the Division's intent to issue a permit authorizing the facility to discharge treated groundwater to surface waters of the State, subject to the conditions contained within the permit is being sent to the **Lahontan Valley News/Fallon Eagle Standard** for publication. The notice is being mailed to interested persons on our mailing list. Anyone wishing to comment on the proposed permit can do so in writing for a period of thirty (30) days following the date of publication of the notice of proposed action in the newspaper. The comment period can be extended at the discretion of the Administrator. The deadline date and time by which all comments are to be submitted (via postmarked mail or time-stamped faxes, e-mails, or hand-delivered items) to the Division is 5:00 PM May 24, 2003.

A public hearing on the proposed determination can be requested by the applicant, any affected State, any affected interstate agency, the Regional Administrator of EPA Region IX or any interested agency, person or group of persons.

The request must be filed within the comment period and must indicate the interest of the person filing the request and the reasons why a hearing is warranted.

Any public hearing determined by the Administrator to be held must be conducted in the geographical area of the proposed discharge or any other area the Administrator determines to be appropriate. All public hearings must be conducted in accordance with NAC 445A.238.

The final determination of the Administrator may be appealed to the State Environmental Commission pursuant to NRS 445A.605.

Prepared by: Bruce Holmgren
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